

This listing of claims will replace all prior versions, and listings, of claims in the application.

**Listing of Claims:**

1. (Original) A method for treating a patient having a condition mediated by neurotoxicity, neurodegeneration or neurological damage, comprising administering to said patient a therapeutically effective amount of a peptide comprising one or more monomeric peptides of 8 to about 40 amino acids in length that bind to EPO receptor, each monomeric peptide comprising a sequence of amino acids  $X_4X_5X_aX_bX_6X_cX_dX_7$  (SEQ ID NO: 47), wherein

$X_a$  is G or A;

$X_b$  is P or A;

$X_c$  is T or A;

$X_d$  is selected from W, A, and F;

$X_4$  is selected from R, H, Y, L, and W, or  $X_4$  is nonexistent;

$X_5$  is selected from F, M, and I;

$X_6$  is independently selected from the 20 genetically coded L-amino acids or the stereoisomeric D-amino acids; and

$X_7$  is selected from D, V, E, I, and L.

2. (Original) The method of claim 1, wherein said sequence is  $X_4X_5GPX_6TWX_7$  (SEQ ID NO: 48).
3. (Original) The method of claim 2, wherein said sequence is  $X_3X_4X_5GPX_6TWX_7X_8$  (SEQ ID NO: 1), wherein

$X_3$  is selected from C, E, A,  $\alpha$ -amino- $\gamma$ -bromobutyric acid, and homocysteine (Hoc); and,

X<sub>8</sub> is selected from C, K, A,  $\alpha$ -amino- $\gamma$ -bromobutyric acid, and homocysteine (Hoc).

4. (Original) The method of claim 3 with the proviso that either X<sub>3</sub> or X<sub>8</sub> is C or homocysteine (Hoc).
5. (Original) The method of claim 4 wherein X<sub>3</sub> or X<sub>8</sub> is C.
6. (Original) The method of claim 3 wherein

X<sub>3</sub> is selected from C, E, and A;

X<sub>4</sub> is selected from R, H, and Y, or X<sub>4</sub> is nonexistent;

X<sub>6</sub> is selected from V, L, I, M, E, and A; and

X<sub>7</sub> is D or V; and

X<sub>8</sub> is selected from C, K and A.

7. (Original) The method of claim 3 wherein said peptide is a dimer of each of said monomeric peptides comprising a sequence of amino acids YX<sub>2</sub>X<sub>3</sub>X<sub>4</sub>X<sub>5</sub>GPX<sub>6</sub>TWX<sub>7</sub>X<sub>8</sub> (SEQ ID NO: 2), wherein  
X<sub>2</sub> and X<sub>6</sub> are each independently selected from the 20 genetically coded L-amino acids;  
X<sub>3</sub> is C; and  
X<sub>8</sub> is C.
8. (Original) The method of claim 7 wherein

X<sub>2</sub> is selected from L S H M A and I, or X<sub>2</sub> is nonexistent; and

X<sub>6</sub> is selected from V, L, I, M, E, and A.

9. (Currently amended) The method of claim 7 wherein each of said monomeric peptides in said peptide dimer comprises a sequence of amino acids X<sub>1</sub>YX<sub>2</sub>X<sub>3</sub>X<sub>4</sub>X<sub>5</sub>GPX<sub>6</sub>TWX<sub>7</sub>X<sub>8</sub>X<sub>9</sub>X<sub>10</sub>X<sub>11</sub> (SEQ ID NO: 3), wherein each of X<sub>1</sub>, X<sub>2</sub>, X<sub>6</sub>, X<sub>9</sub>, X<sub>10</sub>, and X<sub>11</sub> is independently selected from the 20 genetically coded L-amino acids.

10. (Currently amended) The method of ~~peptide dimer~~ of claim 9 wherein, in the peptide dimer,

X<sub>3</sub> is selected from C, E, and A;

X<sub>4</sub> is selected from R, H, and Y, or X<sub>4</sub> is nonexistent;

X<sub>7</sub> is D or V;

X<sub>8</sub> is C or K.

X<sub>9</sub> is K, G, L, Q, R, S, or T; and

X<sub>10</sub> is A, G, P, R, or Y.

11. (Original) The method of Claim 10 wherein

X<sub>1</sub> is D, E, L, N, S, T or V;

X<sub>2</sub> is selected from L, S, H, M, A, and I, or X<sub>2</sub> is nonexistent;

X<sub>9</sub> is selected from K, Q, R, S, and G; and

X<sub>10</sub> is selected from P, Y, and A.

12. (Original) The method of claim 3 wherein said peptide is a dimer of each of said monomeric peptides comprising a sequence of amino acids  
X'X<sub>2</sub>X<sub>3</sub>X<sub>4</sub>X<sub>5</sub>GPX<sub>6</sub>TWX<sub>7</sub>X<sub>8</sub> (SEQ ID NO: 49), wherein X' is selected from D-Tyr, *p*-NO<sub>2</sub>-Phe, *p*-NH<sub>2</sub>-Phe, *p*-F-Phe, *p*-I-Phe, and 3,5-dibromo-Tyr.
13. (Original) The method of claim 12 wherein said sequence is X'CHFGPLTWVC.
14. (Original) The method of claim 1 wherein each of said monomeric peptides comprise a sequence independently selected from

GGLYLCRFGPVTWDCGYKGG	(SEQ ID NO:7);
GGTYSCHFGPLTWVCKPQGG	(aka EMP-1) (SEQ ID NO:8);
GGDYHCRMGPLTWVCKPLGG	(SEQ ID NO:9);
VGNYMCHFGPITWVCRPGGG	(SEQ ID NO:10);
GGVYACRMGPITWVCSPLGG	(SEQ ID NO:11);
VGNYMAHMGPIWVCRPGG	(SEQ ID NO:12);
GGTYSCHFGPLTWVCKPQ	(aka EMP-16) (SEQ ID NO:13);
GGLYACHMGPMTWVCQPLRG	(aka EMP-36) (SEQ ID NO:14);
TIAQYICYMGPETWECRPSPKA	(aka EMP-38) (SEQ ID NO:15);
YSCHFGPLTWVCK	(aka EMP-20) (SEQ ID NO:16);
YCHFGPLTWVC	(aka EMP-23) (SEQ ID NO:17);
SCHFGPLTWVCK	(aka EMP-24) (SEQ ID NO:18);
GGTASCHFGPLTWVCKPQGG	(aka EMP-6) (SEQ ID NO:19);
GGTYSCHFAPLTWVCKPQGG	(aka EMP-9) (SEQ ID NO:20);
GGTYSCHFGLTWVCKPQGG	(aka EMP-27) (SEQ ID NO:21);
TYSCHFGPLTWVCKPQGG	(aka EMP-17) (SEQ ID NO:22);

TYSCHFGPLTWVCKPQ	(aka EMP-18) (SEQ ID NO:23);
YSCHFGPLTWVCKP	(aka EMP-19) (SEQ ID NO:24);
YSCHFGPLTWVC	(aka EMP-21) (SEQ ID NO:25);
YSCHFGALTWVCK	(aka EMP-22) (SEQ ID NO:26);
GGCRIGPITWVCGG	(aka EMP-25) (SEQ ID NO:27);
HFGPLTWV	(aka EMP-26) (SEQ ID NO:28);
GGTTSCHFGPLTWVCKPQGG	(aka EMP-7) (SEQ ID NO:29);
GGTFSCHFGPLTWVCKPQGG	(aka EMP-8) (SEQ ID NO:30);
GGTYSCHFGALTWVCKPQGG	(aka EMP-10) (SEQ ID NO:31);
GGTYSCHFGPATWVCKPQGG	(aka EMP-11) (SEQ ID NO:32);
GGTYSCHFGPLAWVCKPQGG	(aka EMP-12) (SEQ ID NO:33);
GGTYSCHFGPLTAVCKPQGG	(aka EMP-13) (SEQ ID NO:34);
GGTYSCHFGPLTFVCKPQGG	(aka EMP-14) (SEQ ID NO:35);
GGTYSCHFGPLTWVCKAQGG	(aka EMP-15) (SEQ ID NO:36);
GGTXSCHFGPLTWVCKPQGG	(aka EMP-28, X = D-Tyr) (SEQ ID NO:37);
GGTXSCHFGPLTWVCKPQGG	(aka EMP-29, X = <i>p</i> -NO <sub>2</sub> -Phe) (SEQ ID
NO:38);	
GGTXSCHFGPLTWVCKPQGG	(aka EMP-30, X = <i>p</i> -NH <sub>2</sub> -Phe) (SEQ ID
NO:39);	
GGTXSCHFGPLTWVCKPQGG	(aka EMP-31, X = <i>p</i> -F-Phe) (SEQ ID NO:40);
GGTXSCHFGPLTWVCKPQGG	(aka EMP-32, X = <i>p</i> -I-Phe) (SEQ ID NO:41);
GGTXSCHFGPLTWVCKPQGG	(aka EMP-33, X = 3,5-dibromo-Tyr)
	(SEQ ID NO:42);
Ac-GGTYSCHFGPLTWVCKPQGG	(aka EMP-34) (SEQ ID NO:43);
GGLYACHMGPMTWVCQPLGG	(aka EMP-35) (SEQ ID NO:44);
LGRKYSCHFGPLTWVCQPAKKD	(aka EMP-37) (SEQ ID NO:45); and
GGTYSEHFGPLTWVKKPQGG	(aka EMP-39) (SEQ ID NO:46).

15. (Original) The method of claim 14 wherein each of said monomeric peptides is independently selected from:

GGTYSCHFGPLTWVCKPQGG (aka EMP-1) (SEQ ID NO:8);

GGTASCHFGPLTWVCKPQGG	(aka EMP-6) (SEQ ID NO:19);
GGTYSCHFAPLTWVCKPQGG	(aka EMP-9) (SEQ ID NO:20); and
YCHFGPLTWVC	(aka EMP-23) (SEQ ID NO:17).

16. (Original) The method of claim 1 wherein said peptide is a dimer formed by a polyethylene glycol linker through a covalent bond.
17. (Original) The method of claim 16 wherein each monomeric peptides of said dimer are covalently bound N-terminus to N-terminus.
18. (Original) The method of claim 16 wherein each monomeric peptides of said dimer are covalently bound N-terminus to C-terminus.
19. (Original) The method of claim 1 wherein said monomeric peptides are dimerized on activated benodiazepins, oxazolones, azalactones, aminimides or diketopiperazine.
20. (Original) The method of claim 19 wherein said monomeric peptides are covalently bound N-terminus to N-terminus.
21. (Original) The method of claim 19 wherein said monomeric peptides are covalently bound N-terminus to C-terminus.
22. (Currently amended) The method ~~peptide~~ of claim 2, which comprises least one peptide dimer.

Claims 23-37: Canceled.